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## Foreign Documents Branch C I A Periodical Abstracts

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SCIENTIFIC

Number 68

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Abstracted in this issue:

<u>Title</u>	<u>Issue</u>	<u>Date</u>
<u>Russian Periodicals</u>		
"Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Novaya Seriya, Vol LIII, Otdel Geologicheskii" (Bulletin of the Moscow Society of Naturalists, New Series, Geological Section) Cards 67-69	Vol XXIII No 1	Jan/Feb 1948
"Doklady Akademii Nauk SSSR, Novaya Seriya" (Reports of the Academy of Sciences of the USSR, New Series) Cards 13-18, 64-66, 75-93, 95-99	Vol LX No 5	May 1948
"Gidrotekhnicheskoye Stroitel'stvo" (Hydrotechnical Construction) Cards 51-59	No 4	Apr 1948
"Tsement" (Cement) Cards 19, 60-62	No 2	Mar/Apr 1948
"Vestnik Vozdushnogo Flota" (Herald of the Air Fleet) Cards 2, 3, 63	No 2 (348)	Feb 1948
"Vestnik Vozdushnogo Flota" (Herald of the Air Fleet) Cards 4-12	No 4 (350)	Apr 1948
"Zhurnal Fizicheskoy Khimii" (Journal of Physical Chemistry) Cards 20-29, 94	Vol XXII No 5	May 1948
"Zhurnal Obshchey Khimii" (Journal of General Chemistry) Cards 30-50	Vol XVIII No 2 (LXXX)	Feb 1948
"Zoologicheskii Zhurnal" (Zoological Journal) Cards 1, 70-74	Vol XXVII No 2	Mar/Apr 1948

NOTE

In indexing these abstracts the following guides are used: MEDICINE - "Quarterly Cumulative Index Medicus," American Medical Association; CHEMISTRY - "Chemical Abstracts Subject Index," American Chemical Society; GENERAL - "Subject Headings for Technical Libraries," US Department of Commerce, Office of Technical Services.

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FDB Periodical Abstracts Scientific No 68		FDB Periodical Abstracts Scientific No 68	
USSR/Academy of Sciences Zoology	Mar/Apr 1948	USSR/Aeronautics Airplanes, Fighter Airplanes, Bomber	Feb 1948
<p>"The Third Conference of the Scientific Research Institute of Zoology of Moscow State University on Problems of Hydrobiology and Ichthyology," Ya. A. Burshteyn, 8 pp</p> <p>"Zool Zhur" Vol XXVII, No 2</p> <p>Session convened 8-11 Mar 1947 in Moscow at Biological Faculty of Moscow State U imeni M. V. Lomonosov. Subject matter covered wide field but discussions were limited to reservoirs and waterways of Far East. Gives minutes of daily sessions.</p>		<p>"Development of Soviet Aviation Technology," Prof Lt Gen V. Pyshnov, Avn Engr Sv and Hon Worker of Sci and Tech, 11 pp</p> <p>"Vest Vozdush Flota" No 2 (348)</p> <p>Historical account of development of Soviet technology in field of aviation. Presents pictures of various Soviet airplanes, particularly pursuit and fighter planes and bombers.</p>	
FDB	68T1	FDB	68T2
USSR/Aeronautics, Military - History Airplanes, Bombers	Feb 1948	USSR/Aeronautics Flight, High Altitude Atmosphere - Measurements	Apr 1948
<p>"Soviet Aviation in Its Fight for the Freedom and Independence of the Country," Marshall of Avn K. Vershinin, 11 pp</p> <p>"Vest Vozdush Flota" No 2 (348)</p> <p>Aviation, after poor start under rule of Tsar, has under Soviet rule risen to foremost position in international aviation. Presents historical account of Soviet Air Forces from beginning when pilots were drawn from ranks of infantry and motor corps. States that in 1934 Soviet aviation was capable of carrying 2,000 tons of bombs. Now increased 208%. Gives other vague comparative figures.</p>		<p>"Flight at High Altitudes," Prof Lt Gen V. Pyshnov, Avn Engr Sv, Hon Worker of Sci and Tech, 5 pp</p> <p>"Vest Vozdush Flota" No 4 (350)</p> <p>Various factors affect operational ceiling of aircraft. Pyshnov describes structure and composition of atmosphere at high altitudes, up to an altitude of 15 kilometers.</p>	
FDB	68T3	FDB	68T4
USSR/Aeronautics Airplanes, Military Airports	Apr 1948	USSR/Aeronautics Jet Engines Rocket Motors	Apr 1948
<p>"The Use of Combat Support Planes (Shturmoviks) Against Enemy Airfields," Guard Lt Col E. Tyulenev, Hero of the Soviet Union, 6 pp</p> <p>"Vest Vozdush Flota" No 4 (350)</p> <p>Article written on basis of actual war experience. Prime objective in subject operation is for planes to remain over enemy airfields for long period of time. Discusses preflight briefing operation and type of formation and formation complement as well as assignments of various components of formation. Describes attack on a German airfield outside of Veselyy.</p>		<p>"Our Nation - The Birthplace of Rocket and Jet Technology," Col I. Kulagin, Engr, Cand Tech Sci, 6 pp</p> <p>"Vest Vozdush Flota" No 4 (350)</p> <p>USSR again leads nations of world in field of discovery. As early as 1927 Tsiolkovskiy set up plans for a laboratory in which rocket motors could be built and tested. This also holds true for jet engines. Author closes with statement that since Russia was first to study rocket motors, Soviet pilots are leaders in field of jet plane maneuvers.</p>	
FDB	68T5	FDB	68T6
USSR/Aeronautics Pilots, Air Trainers, Aviation	Apr 1948	USSR/Aeronautics Training, Bomber Training, Aviation	Apr 1948
<p>"Instructor's Duties" 3 pp</p> <p>"Vest Vozdush Flota" No 4 (350)</p> <p>Stresses necessity of proper and complete ground training for all aviation personnel in order to achieve goal of making Soviet aviation leader in world.</p>		<p>"Organizing Bomber Personnel Training," Maj N. Faddeyev, 5 pp</p> <p>"Vest Vozdush Flota" No 4 (350)</p> <p>Short description of organization for both ground and air training of bomber personnel. Devotes particular attention to bombardier, describing fundamentals of his basic ground training.</p>	
FDB	68T7	FDB	68T8

RESTRICTED	FDB Periodical Abstracts Scientific No 68	RESTRICTED
USSR/Aeronautics Flying, Formation Training, Aviation  "Formation Training," Lt Col I. Alekseyev, 6 pp  "Vest Vozdush Flota" No 4 (350)  Several factors are important in formation flying. Formation leader must be well versed in instrument flying and aerial maneuvers, being able to adapt his plans to each situation. Training received by every pilot, which will permit him to maintain his place, is just as important. Every pilot should be able to judge altitude, distance, and interval. Describes basic factors involved in three requirements and discusses briefly ground training for pilots. FDB 68T9	USSR/Aeronautics, Military Flight Training  "Methods of Assembling a Group of Planes," Lt Col A. Bulatov, E. Kozlovskiy, 12 pp  "Vest Vozdush Flota" No 4 (350)  Two basic methods for organizing flight of planes: 1) assembly in a loop on a linear orientation point; and 2) assembly enroute, after passing a predetermined control point. Discusses details and characteristics of two methods which are particularly applicable for rendezvousing fighter support for bombers. FDB 68T10	
USSR/Aeronautics, Military Radar, Airborne  "Aircraft Radar," Capt I. Bakhmetov, Engr, 10 pp  "Vest Vozdush Flota" No 4 (350)  Radar in aircraft, one of new ideas from World War II, gave rise to a new field of science in the adaptation of radar to aircraft use. Describes aircraft radar interceptors, mounted radar apparatus as a method for defending tail and various types of apparatus developed to determine location of other planes. FDB 68T11	USSR/Aeronautics, Military Bomb Sights  "Review of 'Basic Constructions for Bomb Sights' by I. Ye. Efros," Maj A. Zaslavskiy, 2 pp  "Vest Vozdush Flota" No 4 (350)  Second printing of book contains nine chapters. Weakness of author seems to be that he has attempted to treat a highly technical subject as popular science. There are 253 illustrations on 317 pages, but they lack descriptive explanations. FDB 68T12	
USSR/Chemistry - Potential Electric, Contact May 1948 Chemistry - Potential Electric, Measurement of  "Contact Differences in Potential Between Water and Ice," V. I. Arabadzhi, 1½ pp  "Dok Ak Nauk SSSR" Vol LX, No 5  Contact potential has long been recognized, but until the author conducted his experiments no one had measured it. Describes method. States that such knowledge is necessary as it is significant in the collision of water droplets and ice crystals in clouds, one of theories advanced as reasons for development of lightning. Submitted by Academician A. N. Frumkin 10 Mar 1948. FDB 68T13	USSR/Chemistry - Chromatography Chemistry - Absorption  "Mechanism of Chromatogram Foundation," Ye. N. Gapon, T. B. Gapon, Moscow Agr Acad imeni K. A. Timiryazev, 5½ pp  "Dok Ak Nauk SSSR" Vol LX, No 5  Formation of molecular chromatograms is characteristic not only for solutions but also for gases. Presents graphs which show distribution of sorption and state of mixtures on adsorbent. Representative chromatogram of two gases. Submitted by Academician M. M. Dubinin 10 Mar 1948. FDB 68T14	
USSR/Chemistry - Adsorption, of Vapors May 1948 Chemistry - Adsorption, by Active Carbon  "Problem of the Calculation of Vapor Adsorption Isotherms of Active Carbons," Academician M. M. Dubinin, D. P. Timofeyev, 3½ pp  "Dok Ak Nauk SSSR" Vol LX, No 5  Presents method that is independent of temperature characteristic curves for various vapors and also independent of affinity characteristic curves of individual vapors during constant adsorption. Submitted 15 Mar 1948. FDB 68T15	USSR/Chemistry - Hydrogen, Bonds May 1948 Chemistry - Protons, Transfer of  "Hydrogen Bond and Processes of Proton Transfer," N. D. Sokolov, Inst Org Chem, Acad Sci USSR, 4 pp  "Dok Ak Nauk SSSR" Vol LX, No 5  Continuation of experiments first reported in "Dok Ak Nauk SSSR," Vol LVIII, 1947, which described methods for obtaining bond frequency of A...B. Presents functions similar to results obtained in first article, with which it is possible to obtain a satisfactory description of spectroscopic phenomena of hydrogen bond. Submitted by Academician A. N. Terenin 10 Mar 1948. FDB 68T16	

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USSR/Chemistry - Orthoformic Acid, Esters of May 1948  
Chemistry - Parachors

"Parachors and Structure of Orthoformic Esters, Ortho-carbonic and Orthosilicic Acids," B. A. Arbutov, Corr Mem Acad Sci USSR, V. S. Vinogradova, Chem Inst imeni A. M. Butlerov, Kazan State U imeni V. I. Ul'yanov-Lenin, 34 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

In previous articles dealing with subject it was stated that corrections were necessary for curve of chains in a direction toward central atom as well as for interrelationship between components. Reports results of studies conducted to determine value of

FDB

68T17

USSR/Chemistry - Orthoformic Acid, May 1948  
Esters of (Contd)

parachors of orthoformic esters with corrections made on carbon atom of each chain, as well as corrections to parallel nature of the  $\gamma$  carbon atom. Submitted 15 Mar 1948.

FDB

68T17

USSR/Chemistry - Heterocyclic Compounds May 1948  
Chemistry - Double Bonds

"Energy of Stimulation of Systems With Conjugate Double Bonds and Heterocyclic Atoms," M. Dyatkina, Phys Chem Inst imeni L. Ya. Karpov, Moscow, 12 pp

"Zhur Fiz Khim" Vol XXII, No 5

Energy of stimulation of a series of systems with heterocyclic atoms was calculated by means of modified molecular orbit method, i.e., calculating increased energy of electron at heterocyclic atom (parameter  $\delta$ ) and increased resonance integral of link  $Cx$  (parameter  $\gamma$ ). Results are shown in tabular form and analyzed. Submitted 9 Jul 1947.

FDB

68T20

USSR/Chemistry - Solids May 1948  
Chemistry - Solubility, Measurement of

"Shape of the Solubility Curve Near the Critical Point of a Solid," V. A. Sokolov, Lab of Fused Salts, Inst Gen and Inorg Chem imeni N. S. Kurnakov, Acad Sci USSR, Moscow, 4 pp

"Zhur Fiz Khim" Vol XXII, No 5

Equations governing manner in which solubility of a solid varies with temperature are stated for both real and ideal solutions. Solubility curve is sketched and its shape discussed. Submitted 24 Jun 1947.

FDB

68T22

USSR/Chemistry - Hydrocarbons  
Chemistry - Isomerization

May 1948

"Isomerization of Polymethylene Hydrocarbons by the Influence of Aluminum Chloride," M. B. Turova-Polyak, 3 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Studies conducted on conditions necessary for transposition from one cyclic system to another and explanation of mechanisms of this reaction. This is necessary to understand various processes that occur in nature. Results of studies permit evaluation of relative stability of such cycles. Submitted by Academician A. A. Balandin 16 Mar 1948.

FDB

68T18

USSR/Chemistry - Organic Compounds Mar/Apr 1948  
Chemistry - Silicon

"Organic Compounds of Silicon - Silicon" 1 p

"Tsement" No 2

Organic silicon compounds long considered unstable and therefore without practical use. Recently a new field was opened, in which a compound was manufactured in state between that of an absolute inorganic compound and a complete organic compound. Known as silicons they are explained by fact that hydrogen atoms attach themselves to some of silicon atoms. In addition, organic atoms attach themselves to hydrogen atoms. Brief description of chemical process involved and some of uses of compounds.

FDB

68T19

USSR/Chemistry - Systems May 1948  
Chemistry - Solutions, Saturated

"Ternary Water Solutions, Saturated With Mixed Crystalline Salts, Extremely Dilute in Relation to One of the Components," E. Pozner, Chair of Inorg Chem, Gen Asia State U, Tashkent, 3 pp

"Zhur Fiz Khim" Vol XXII, No 5

Largely a resume of existing theory of this subject. Confirmatory experiments have been undertaken. Submitted 13 May 1947.

FDB

68T21

USSR/Chemistry - Solutions, Solid May 1948  
Chemistry - Systems, Physicochemical Analysis of Ternary

"Complex Formation and Solid Solutions in a Ternary System of Potassium, Rubidium and Magnesium Fluorides," Ye. P. Dergunov, A. G. Bergman, Inst Gen and Inorg Chem imeni N. S. Kurnakov, Acad Sci USSR, Moscow, 8 p

"Zhur Fiz Khim" Vol XXII, No 5

Study of system carried out by visual-polythermal method in a platinum crucible fitted with a platinum-rhodium thermocouple. Results are listed and plotted. In ternary system  $KF - RbF - MgF_2$ , complexes form an uninterrupted series of solid solu-

FDB

68T23

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FDB Periodical Abstracts Scientific No 68

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USSR/Chemistry - Silica, Colloidal  
Chemistry - Absorption

May 1948

"Influence of the Conditions of Preparation on the Structure of Silica Gel," G. K. Boreskov, M. S. Borisova, O. M. Dzhit, V. A. Dzis'ko, V. P. Dreving, A. V. Kiselev, O. A. Likhacheva, Moscow State U imeni M. V. Lomonosov, Phys Chem Inst imeni L. Ya. Karpov, Moscow, 14 pp

"Zhur Fiz Khim" Vol XXII, No 5

Samples of various types of silica gel (vitreous, chalky, etc.) obtained by different methods and their absorbent properties compared. Results are tabulated and shown graphically. Submitted 14 Aug 1947.

FDB

68T24

USSR/Chemistry - Diffusion  
Chemistry - Reactions, Chemical

May 1948

"Theory of Diffusion of Kinetics of Heterogeneous Chemical Processes. I. Reactions Which Fall Into the Range of the Solid-Liquid Class," V. Levich, Inst Phys Chem, Acad Sci USSR, Moscow, 11 pp

"Zhur Fiz Khim" Vol XXII, No 5

Speed of every heterogeneous chemical transformation depends (a) on speed with which reagents are brought to place of reaction; (b) on speed of chemical reaction. Obviously, (b) is of greater interest to chemist. Hence, no quantitative theory of (a) has been produced. Author proposes to fill this gap.

FDB

68T25

USSR/Chemistry - Diffusion (Contd)

May 1948

Differential equations are obtained for diffusion along boundary layer, for convectional diffusion towards a rotating disc, for plate immersed in flowing liquid, and for plate with natural convection. Special apparatus is required and has been constructed for revolving disc case. Theory, as applied to discs, shown to be in close accord with experimental results. Submitted 5 Jul 1947.

FDB

68T25

USSR/Chemistry - Flames, Cool  
Chemistry - Combustion

May 1948

"The Mechanism of Cool Flame Combustion," V. Konchat'yev, L. Karmilova, Ye. Kondrat'yeva, Inst Chem Phys, Acad Sci USSR, Moscow, 4 pp

"Zhur Fiz Khim" Vol XXII, No 5

Reports experiments on cool flame combustion, using hydrocarbons (except methane), aldehydes (except formaldehyde) and ethers. Results are tabulated and shown graphically. Concludes that hydrogen atoms, even if present in cool flames, do not play important part they do in hot flames. Submitted 7 Aug 1947.

FDB

68T27

USSR/Chemistry - Solutions, Solid (Contd) May 1948

tions depending on magnitudes of ionic radii and types of crystalline lattices. Submitted 27 Jun 1947.

FDB

68T23

USSR/Chemistry - Heat Capacity  
Chemistry - Melting Points

May 1948

"Theory of Anomalous Phenomena Near Melting Points," G. M. Bartenev, Phys Lab, Sci Res Inst of Rubber Industry, 4 pp

"Zhur Fiz Khim" Vol XXII, No 5

Summarizes results of previous observers in this field. Anomalous increases of specific heats near melting points have been observed in many solids (yellow phosphorus, ice, tin, stearin, etc.) and formerly were attributed incorrectly to presence of impurities. In author's opinion, they are due to phase fluctuations and, by considering coefficient

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68T26

USSR/Chemistry - Heat Capacity (Contd) May 1948

of cubical expansion and specific heat as additive quantities, equations are obtained which enable thermodynamic potential near melting point to be calculated. Method is applied to coefficient of expansion of zinc and curve thus produced agrees very closely with experimental one. Submitted 30 Jul 1947.

FDB

68T26

USSR/Chemistry - Nitro Compounds  
Chemistry - Spectra, Absorption

May 1948

"Absorption Spectra of Solutions of Aromatic Nitro Compounds in Solvents With Free Atoms of Hydrogen," A. I. Shatenshteyn, Ya. M. Varshavskiy, Phys Chem Inst imeni L. Ya. Karpov, Moscow, 11 pp

"Zhur Fiz Khim" Vol XXII, No 5

Describes absorption spectra experiments using (1) solutions of nitro- and polynitrophenolates in alkaline acetone and (2) solutions of meta-dinitro compounds in liquid ammonia and alkaline acetone. Results are shown graphically. Considers results obtained confirm interpretation of complex formation

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USSR/Chemistry - Valency, Electronic Theory of  
Chemistry - Valency, Electronic Structure and

May 1948

"Set Valences," A. G. Lesnik, Chair of Metallurgy, State U, Kiev, 10 pp

"Zhur Fiz Khim" Vol XXII, No 5

Valence orientations in molecule are determined mainly by disposition of electrons with respect to quantum state in central atom. Mathematical method of obtaining this disposition is described and applied to structures of  $\text{Te Cl}_4$  and  $\text{P Cl}_5$  molecules. Results agree with experience. Claims that method can decide which of several possible stable configurations is most probable. Submitted 23 Jul 1947.

FDB 68T29

USSR/Chemistry - Ethane, 1,2-Dichloro  
Chemistry - Condensation, Chemical

Feb 1948

"Research in the Field of High Molecular Compounds. IV. Products of the Polycondensation of 1,2-Dichloroethane With Benzene," V. V. Korshak, G. S. Kolesnikov, A. V. Kharchevnikova, Moscow Order of Lenin Chem Tech Inst imeni D. I. Mendeleev, 6 1/2 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Studies of reaction of dichloroethane with benzene using aluminum chloride as a catalyst under various conditions. Reports that during oxidization of chrome mixtures by polyphenylethyl, terephthalic acid is formed. States that polyphenylethyl group is repre-

FDB 68T30

USSR/Chemistry - Ethane, 1,2-Dichloro  
(Contd)

Feb 1948

sented by a chain, composed of benzene rings united by  $\text{CH}_2\text{CH}_2$ . Submitted 19 Sep 1946.

FDB 68T30

USSR/Chemistry - Platinum  
Chemistry - Urea, Thio

Feb 1948

"Isomeric Thiourea Derivatives of Bivalent Platinum," A. A. Grinberg, Z. A. Razumova, 4 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Studies of action of thiourine on isomerized salt having formula  $[\text{Pt}\{\text{P}(\text{C}_2\text{H}_5)_3\}_2\text{X}_2]$  where X is either Br or I. Primary result was a salt which had formula  $[\text{PtP}_2(\text{Thio})_2]\text{X}_2$ , where  $\text{P} = \text{P}(\text{C}_2\text{H}_5)_3$ , and  $\text{Thio} = \text{SC} < \begin{smallmatrix} \text{NH}_2 \\ | \\ \text{NH}_2 \end{smallmatrix}$ , and X = Br or I. Submitted 6 Jan 1947.

FDB 68T33

USSR/Chemistry - Nitro Compounds (Contd) May 1948

of aromatic nitro compounds in liquid ammonia as a reaction of acid-base type. Comparison of absorption spectra strengthens hypothesis whereby band shift in absorption spectra of these compounds is attributed to formation of complex ions. Submitted 1 Jul 1947.

FDB 68T28

USSR/Chemistry - Organic Compounds, Metallo  
Chemistry - Lanthanum

Feb 1948

"Question of the Existence of Metalorganic Compounds of Lanthanum," B. N. Afanas'yev, P. A. Tsyganova, Chair of Inorg Chem, Sverdlovsk Agr Inst, 1 1/2 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Reports of studies conducted to synthesize compounds similar to those formed by scandium and yttrium, and with any one of elements of lanthanum group, to determine whether or not they contained alkyl derivatives. Data shows alkyl derivative esters are present. Submitted 12 Mar 1947.

FDB 68T31

USSR/Chemistry - Benzene, Nitro  
Chemistry - Ions, Electrolytic

Feb 1948

"Physicochemical Study of a System, Containing Chlorine and Bromine Ions and Halogenides of Metals. VI. Electrolysis and Migration of Ions in a Nitrobenzene Solution," Ya. A. Fialkov, K. Ya. Kagan-skaya, Inst Gen and Inorg Chem, Acad Sci USSR, 9 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Presents results of experiments on electrolysis and determination of transfer of ions in systems  $\text{KCl-ICl-C}_6\text{H}_5\text{NO}_2$  and  $\text{AlCl}_3\text{-ICl-C}_6\text{H}_5\text{NO}_2$  showing that complex compounds of KCl or  $\text{AlCl}_3$  with ICl have a structure similar to solvated nitrobenzene. Submitted 25 Jan 1947.

FDB 68T32

USSR/Chemistry - Ketone  
Chemistry - Synthesis

Feb 1948

"Ketone Synthesis by a Friedel-Crafts Reaction With  $\text{ZnCl}_2$ ," A. B. Kuchkarov, I. P. Tsukervanik, Lab Org Chem, Gen Asiatic State U, 3 1/2 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Shows possibility of utilizing  $\text{ZnCl}_2$  for synthesizing ketones. Vapor isomer ketones obtained as a result of synthesis. Describes synthesis of 4-methyl, 4-ethylbenzophenol, alpha-naphthylphenylketone, 4-methyl, 4-ethyl-isovalerophenol, and 4-etoxyisovalerophenol. Submitted 13 Aug 1946.

FDB 68T34

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USSR/Chemistry - Arsine Chemistry - Ethylene Oxide	Feb 1948	USSR/Chemistry - Anthraquinone Chemistry - Benzanthrone Feb 1948
"Reaction of Ethylene Oxide With Arsine," G. I. Braz, A. Ya. Berlin, Yu. V. Markova, All-Union Sci Res Chemioopharmaceutical Inst imeni S. Ordzhonikidze, Moscow, 3½ pp		"Research in the Field of Polycyclic Compounds. VII. The Theory of the Formation of Benzanthrone From Anthraquinone," A. M. Lukin, Inst Org Chem, Acad Sci, and Sci Res Inst Org Intermediate Products and Dye Stuffs imeni K. Voroshilov, 8 pp
"Zhur Obshch Khim" Vol XVIII (LXXX), No 2		"Zhur Obshch Khim" Vol XVIII (LXXX), No 2
Studies of interaction of ethylene oxide and hydrogen arsenide (arsine), diphenylarsine, and phenylarsine. During action of thioline chloride on products of reaction of ethylene oxide and diphenylarsine or phenylarsine, only known arylchlorarsine products were obtained. Submitted 20 Dec 1946.		Using data obtained from reports author conducted experiments to synthesize benzanthrone from anthraquinone. Found that basic intermediate product is oxanthrone, not anthrone. Synthesis of benzanthrone from anthrone occurs infrequently during two-phase
FDB	68T35	FDB
USSR/Chemistry - Organic Compounds, Metallo Chemistry - Radicals	Feb 1948	USSR/Chemistry - Anthraquinone (Contd) Feb 1948
"The Problem of the Separation of Radicals in Metal-organic Compounds of the Metals of Group IV. VI. Separation of the Radicals by the Reaction of Aluminum Chloride and Ferric Chloride on Compounds of the Type R <sub>3</sub> Me, Where Me Is Equal to Si, Sn or Pb," Z. M. Manulkin, Lab Org Chem, Gen Asiatic State U and Tashkent Pharmaceutical Inst, 6½ pp		process, and almost always during one-phase process. Submitted 16 May 1947.
"Zhur Obshch Khim" Vol XVIII (LXXX), No 2		
Aluminum chloride is a more active disintegrating agent than ferric chloride. Aluminum chlorides, when acting on compounds of the R <sub>3</sub> Me type, form aluminum organic compounds. Submitted 4 Apr 1947.		
FDB	68T37	FDB
USSR/Chemistry - Burets, Micro-	Feb 1948	USSR/Chemistry - Benzene Chemistry - Hydration Feb 1948
"The Improved 'Microburet' of P. M. Isakov," Ye. A. Shilov, 1 p		"Study of Kinetics and Mechanism of Reaction of the Hydration of Hydrocarbons. V. Effect of Benzene Cyclohexane and Nitrogen on the Variations of the Activity of a Nickel Catalyst During the Hydration of Benzene," A. A. Alchudzhan, A. A. Vvedenskiy, Leningrad Inst of High Pressures, 7 pp
"Zhur Obshch Khim" Vol XVIII (LXXX), No 2		"Zhur Obshch Khim" Vol XVIII (LXXX), No 2
Brief article stating that P. M. Isakov's ideas concerning a micrometric screw are not at all new. Submitted 20 Jun 1947.		Prolonged treatment of a nickel catalyst with large amounts of benzene results in a loss of activity at 230°. Full activity can be restored by prolonged treatment of catalyst by hydrogen. Submitted 30 Jul 1946.
FDB	68T38	FDB
USSR/Chemistry - Hydrocarbons Chemistry - Hydration	Feb 1948	USSR/Chemistry - Polarographs Chemistry - Polarography, Wave Height in Feb 1948
"Study of the Kinetics and Mechanism of Reaction of the Hydration of Hydrocarbons. VI. The Mechanism of the Catalytic Hydration on Nickel and Palladium," A. A. Alchudzhan, A. A. Vvedenskiy, A. V. Frost, Leningrad Inst of High Pressures, 7½ pp		"Effect of the Speed of Dropping on the Height of the Polarographic Wave," B. A. Geller, Inst Phys Chem imeni L. V. Pisarzhevskiy, Acad Sci USSR, 2 pp
"Zhur Obshch Khim" Vol XVIII (LXXX), No 2		"Zhur Obshch Khim" Vol XVIII (LXXX), No 2
Studies of speed of hydration of benzene on nickel and changes of this speed with relation to various stages in process of evaporation. Shows that in spite of decreases in activity when catalyst is processed by benzene or cyclohexane, activity can be restored in		Criticizes article by Chirkov which appeared in "Journal of General Chemistry," Vol XIV, 1944. Geller states that article departs too far from facts. Graph and supporting argument given. Submitted 18 Oct 1946.
FDB	68T40	FDB
		68T41

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FDB Periodical Abstracts Scientific No 68

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USSR/Chemistry - Hydrocarbons (Contd) Feb 1948

both cases by treatment with hydrogen for long periods of time. Submitted 30 Jul 1946.

FDB

68T40

USSR/Chemistry - Sulfones  
Chemistry - Synthesis Feb 1948

"Derivatives of 4,4-Diaminodiphenyl Sulfone," V. A. Zaslavov, A. I. Ivanov, Sci Res Lab Experimental Chemotherapy of Infectious Diseases, Ministry of Public Health, USSR, 4 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Synthesis of 4,4'-diglycildiphenylsulfone in its sodium salt form was obtained during studies made to produce a compound that would be active in tuberculosis cases. Laboratory method obtained esters and amides of this compound. Preparation was of great importance in experimental tuberculosis. True for in

FDB

68T43

USSR/Chemistry - Sulfones (Contd) Feb 1948

vitro form as well as in vivo form. Good results obtained in treatment of experimental gas gangrene. Submitted 17 Sep 1946.

FDB

68T43

USSR/Chemistry - Malonic Acid, Dialdehyde Feb 1948  
Chemistry - Condensation

"Vinyls of the Dialdehyde of Malonic Acid," I. L. Knunyants, A. K. Shillegodskiy (Deceased), 52 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

New method for obtaining vinyl homologs by condensing dialdehydes by means of acetic aldehydes, shows that during condensation of beta-tetrahydroquinolacryl by malonic acid in solution with an acetic anhydride, there was formed bis-tetrahydroquinoline produced delta-3,5-heptadiene-1,7. Submitted 13 Aug 1946.

FDB

68T46

USSR/Chemistry - Anthraquinone  
Chemistry - Sulfonation Feb 1948

"Studies of the Anthraquinone Series. VII. The Separation of the Catalytic Action of Mercury During the Sulfonation of Anthraquinone," V. V. Kozlov, Lab Dye Stuffs, Moscow Order of Lenin Chem Tech Inst imeni D. I. Mendeleev, 84 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Presents picture of distribution of mercury between media during sulfonation of anthraquinone on alpha-sulfonic acid. Establishes mechanisms of anti-catalytic action of table salt and other HCl which were isolated from media by means of separation from mercury salts. Submitted 9 Oct 1946.

FDB

68T42

USSR/Chemistry - Lupinine  
Chemistry - Oxidation Feb 1948

"Lupinine and Its Oxidation," S. A. Zaboyev, Chair of Org Chem, Mil Med Acad imeni S. M. Kirov, 4 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Presents easy, time-saving, and cheap method for isolating lupinine from lupinine compounds. 30% by volume can be obtained. Oxidation of lupinine produced a new heterocyclic aldehyde named lupinal with chemical formula  $C_{10}H_{17}ON$ . Submitted 20 Dec 1946.

FDB

68T44

USSR/Chemistry - Hydrocarbons, Aromatic Feb 1948  
Chemistry - Hydrocarbons, Saturated

"The Difference Between Nitrating Aromatic and Saturated Hydrocarbons," A. I. Titov, Lab Org Chem, Mil Acad imeni K. Ye. Voroshilov, Moscow, 4 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Discusses differences in results and courses of typical cases of nitrating paraffin chains, as well as aromatic nuclei. Determines mechanism of nitrating unsaturated compounds. Studies on significance of propagation factor on establishment of paraffin type reactions. Submitted 17 May 1946.

FDB

68T45

USSR/Chemistry - Oils, Essential Feb 1948  
Chemistry - Analysis

"Composition of the Volatile Oil 'Artemisia Austriae Jack'," V. P. Gol'mov, V. I. Trofimov, N. M. Afanas'yev, Chair of Gen Chem, Stavropol Med Inst, 4 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Studies of composition of subject oil. Following substances were isolated and identified: 30% cineole, 29% mixtures of alpha-, beta-thujone, about 3.5% thujone alcohol, about 2% phellandrene, and about 6% complex ethers. There were other highly volatile substances. Submitted 12 Aug 1946.

FDB

68T47

RESTRICTED	FDB Periodical Abstracts Scientific No 68	RESTRICTED
USSR/Chemistry - Pyridine Chemistry - Synthesis Feb 1948	USSR/Chemistry - Cyanine Dyes Chemistry - Cyanines Feb 1948	
"Thionicotinic Acid and Its Esters," A. M. Grigorovskiy, Z. M. Kimen, Inst Pharmacology, Toxicology and Chemotherapy, Ministry Med Industries, USSR, 4 pp	"N-Arythiazolcyanines," A. I. Kiprianov, F. I. Asnina, I. K. Ushenko, Inst Org Chem, Acad Sci USSR, 5½ pp	
"Zhur Obshch Khim" Vol XVIII (LXXX), No 2	"Zhur Obshch Khim" Vol XVIII (LXXX), No 2	
Synthesis of newly produced pyridine obtained by utilizing usual synthetic methods used for compounds of aromatic series. Thionicotinic acid was more stable in compounds than its analog. Submitted 10 Aug 1946.	Todd's, Bergel's, and Karimullah's methods were used in condensation of chloracetone with thioacetone produced aniline, alpha-naphthylamine, p-anisidine, and p-aminodimethyl-aniline. As a result authors obtained perchlorates of 3-phenyl-, 3-alpha-naphthyl-, and 3-p-dimethylaminophenyl-2,4-dimethylazole. By synthesis these produced symmetrical and asymmetri-	
FDB 68T48	FDB 68T49	
USSR/Chemistry - Carbonic Acid Chemistry - Decomposition, Thermal Feb 1948	USSR/Chemistry - Cyanine Dyes (Contd) Feb 1948	
"Mechanisms of the Thermal Decomposition of the Salts of Carbonic Acid. IV. Thermal Decomposition of Cupric Salts of Carbonic Acid," E. M. Bambas, M. M. Shemyankin, Lab Org Chem, Inst Biol and Med Chem, Acad Med Sci USSR, 12½ pp	cal cyanide dyes. Established strong effect of radical in heteroatomic nitrogen on absorption of asymmetrical carbocyanide, which contains thiazole and benzthiazole nucleus. Submitted 23 Sep 1946.	
"Zhur Obshch Khim" Vol XVIII (LXXX), No 2		
Experimental studies of thermal decomposition of Cu salts of various types of carbonic acid. Shows that Cu-salts, similar to Ag-salts, decompose first into metal oxides and anhydride acids, which then undergo a secondary conversion. Results of secondary conver-		
FDB 68T50	FDB 68T49	
USSR/Chemistry - Carbonic Acid (Contd) Feb 1948	USSR/Electricity Hydroelectric Plants Apr 1948	
sion are usually: hydrated forms of the intermediate anhydrides, oxidation of copper (or silver) oxides, and decarboxalization of basic material. Submitted 13 Jan 1947.	"Gor'kiy Hydroelectric Station," B. I. Zagorodnikov, Engr, ½ p	
	"Gidrotekh Stroi" No 4	
	This installation is an important one of postwar Five-Year Plan. Located below Shcherbakov Power Station on Volga, it will harness water power for a stretch of 400 km from Shcherbakov to Gorodets. Forming a water reservoir of 179 thousand hectares, it is supplied by 18 km shunt line, equipped with 35 kilovolt transmission lines. No completion date is given.	
FDB 68T50	FDB 68T51	
USSR/Electricity Generators, Electric Bearings Apr 1948	USSR/Engineering Concrete Concrete, Reinforced Apr 1948	
"Defective American Bearings of a Hydrogenerator of the Dnepr Hydroelectric Power Station [Imeni V. I. Lenin]," Z. P. Chernogubovskiy, Engr, 3½ pp	"Fourth All-Union Conference on Concrete and Reinforced Concrete Constructions," S. I. Taycher, Engr, 2½ pp	
"Gidrotekh Stroi" No 4	"Gidrotekh Stroi" No 4	
Dnepr hydroelectric power station has several International GE hydrogenerators. The bearings of some old generators were unable to stand up under high temperatures generated at station. Gives basic characteristics of GE bearings, studies conducted on these bearings during operation of installations, and pictures of defects that appeared on bearings.	Conference convened from 17 Jan to 2 Feb at Tbilisi. Gives minutes of proceedings.	
FDB 68T52	FDB 68T53	

RESTRICTED	FDB Periodical Abstracts Scientific No 68	RESTRICTED
USSR/Engineering Explosives, Underwater Hydroelectric Plants  "Action of Explosions in Water at Hydraulic Installations," I. S. Fedorov, Cand Tech Sci, 2½ pp  "Gidrotekh Stroi" No 4  Blasting is being used more frequently at hydrotechnical operations sites. Briefly describes action of explosions on water and effect such shock waves and blasts may have on hydrotechnical constructions.	Apr 1948  <	

RESTRICTED	FDB Periodical Abstracts Scientific No 68	RESTRICTED	
USSR/Engineering (Contd)	Mar/Apr 1948	USSR/Engineering Furnaces Welding Mar/Apr 1948	
chatova (Cement Plant Kosogor Metallurgical Combine), Derevyanchenko (Gruzia Works), Agadzhanova (Brotsen Works), Denisenko (Bolshevik Works), Koshelev (Krasniy Otkyabr' Works), Kraynik (Leningrad Works), Logachevskaya (Amvrosiyevsk Works), Panich (Kuvassy Works), Plakunova (Podgoren Works), Kulikov (Inspector for Hydrocement quality) and Petchenko (Armenian Works).		"Construction of Some Units of Modern Rotary Furnaces," V. F. Gladkov, 4½ pp  "Tsement" No 2  Greatest change in rotary furnaces has been introduction of welded construction for main body of furnace. General account of main points of contemporary rotary furnace construction. Several photographs show bearings and steel bands. Designer's sketch of an assembled furnace.	
FDB	68T60	FDB	68T61
USSR/Engineering Cement	Mar/Apr 1948	USSR/Engineering Engines, Reciprocating Engines, Aircraft	Feb 1948
"The Twenty-Fifth Year of the All-Union Scientific Research and Planning Institute 'GiproTsement'" 2½ pp  "Tsement" No 2  Brief summary of work done by subject institute. Conducts research for improving quality of cement, carries out surveys for mining sites, and makes recommendations for designing new plants and redesigning old ones.		"Soviet Reciprocating Engines," Col Prof Ye. Bugrov, Engr, Dr Tech Sci, 6 pp  "Vest Vozdush Flota" No 2 (348)  Historical account of development of reciprocating engines in USSR. Side glances on factors which helped to decide between air-cooled and water-cooled engines. At present great strides are being made in field of jet engines. However, it must be noted that reciprocating engines will remain very important until jet engines achieve fuel economy comparative to reciprocating engines.	
FDB	68T62	FDB	68T63
USSR/Engineering Elasticity Mathematics, Applied	May 1948	USSR/Geology Caverns	May 1948
"One Method of Determining Limit Problems of Sine Fluctuations in Flexible Cylinders," I. N. Vekua, Corr Mem, Acad Sci USSR, 3½ pp  "Dok Ak Nauk SSSR" Vol LX, No 5  Mathematical formulas which support author's new method for determining subject problem. Reference is made to work done by Sherman and Gel'der on same subject. Submitted 15 Mar 1948.		"Nature of the Karst," D. V. Ryzhikov, Mining Geol Inst, Ural Affiliate, Acad Sci USSR, 2½ pp  "Dok Ak Nauk SSSR" Vol LX, No 5  Author discusses regularities noticeable in formation of caverns (karsts), primarily result of a denuding hydrogeological process, which is controlled by epeirogenic movements. Presents data supporting argument. Submitted by Academician D. S. Belyankin 15 Mar 1948.	
FDB	68T64	FDB	68T65
USSR/Geology Sedimentation Boron	May 1948	USSR/Geology Tectonics	Jan/Feb 1948
"Percentage of Boron in Recent Sea Sediments," I. Gulyayeva, Inst Mineral Fuels, Acad Sci USSR, 2½ pp  "Dok Ak Nauk SSSR" Vol LX, No 5  Tests conducted on Barents, Kara, Black, Caspian, Azov, and Greenland Seas. Maximum boron content was 4.5 mg per liter of ocean water. However, inland seas contain much less (from $1.5 \cdot 10^{-4}$ to $3.61 \cdot 10^{-4}$ ). Tests were conducted to determine relationship between boron content of water basins to boron content of water basin silts. Submitted by Academician S. S. Manetkin 17 Feb 1948.		"Structure of the Tertiary Deposits of T'ien Shan," B. A. Petrushevsky, 39 pp  "Byul Mosk Obshch Ispy Prirod, Nova Ser, Vol LIII, Otdel Geolog" Vol XXIII, No 1  Describes tertiary stratum of large intramontane cavities of T'ien Shan (Issykul'sk, Marynsk, Atbashinsk and others) divided by author into three formations established for whole of territory investigated. Age of lowest identified as oligo-miocene, middle as neogene, and uppermost as neogene-early quaternary. Describes structures of intramontane cavities.	
FDB	68T66	FDB	68T67

RESTRICTED	FDB Periodical Abstracts Scientific No 68	RESTRICTED
USSR/Medicine - Paleontology Medicine - Fossils	Jan/Feb 1948	USSR/Medicine - Paleontology Medicine - Fossils
<p>"Syngenetic Diagrams," V. P. Kolesnikov, 11 pp</p> <p>"Byul Mosk Obshch Ispy Prirod, Nova Ser, Vol LIII, Otdel Geolog" Vol XXIII, No 1</p> <p>Syngenetic diagrams, generalizing all known data concerning several classes of types, are constructed on co-ordinates (geological levels and bathymetric zones) and are accompanied by paleogeographical maps illustrating distribution of species. A study of widely distributed species, at foot of diagrams, enables position of each species in natural system to be defined with sufficient precision. By same method</p>	68T68	<p>"Types and Migration of the Sakmarsk-Artinsk Phases of Tartary, Western Bashkiriya and Adjacent Regions," G. I. Teodorovitch, 19 pp</p> <p>"Byul Mosk Obshch Ispy Prirod, Nova Ser, Vol LIII, Otdel Geolog" Vol XXIII, No 1</p> <p>Distinguishes basic phase types of Sakmarsk-Artinsk deposits of Tartary, Western Bashkiriya and adjacent regions of Kuybyshev, Chkalov and Molotov Oblasts. Carbotterrigenous phases of eastern slope, deep water zone phases, and carbonaceous phases of western slope are established within boundaries of pre-Ural</p>
FDB	68T68	FDB
USSR/Medicine - Paleontology (Contd)	Jan/Feb 1948	USSR/Medicine - Paleontology (Contd)
<p>arrives at more exact evaluation of stratigraphic significance of forms, their vertical (geological) and horizontal (paleogeographical) propagation.</p>		<p>subsidence. Carbonaceous marine and sea-lagoon phases are distinguished within limits of platform. In Bashkir pre-Ural, and on western slope of Urals, all phases of Sakmarsk-Artinsk deposits have migrated regularly.</p>
FDB	68T68	FDB
USSR/Medicine - Parasitology Medicine - Environment	Mar/Apr 1948	USSR/Medicine - Rodents Medicine - Infectious Diseases
<p>"Biocoenology and Parasitology," Academician Ye. N. Pavlovskiy, Zool Inst, Acad Sci USSR, 15½ pp</p> <p>"Zool Zhur" Vol XXVII, No 2</p> <p>Presents general description of both fields, including salient facts and features, and a short list of scientists who have been prominent in these fields.</p>		<p>"The Role of Mammalian Carnivora in the Spread of Rodent Aphaniptera," I. P. Brom, Z. M. Vovchinskaya, L. V. Fedorova, Irkutsk State Antiplague Inst for Siberia and Far East, 7½ pp</p> <p>"Zool Zhur" Vol XXVII, No 2</p> <p>Carnivorous mammalia are treated as a factor in limiting rodents, carriers of infectious diseases. Theory developed as result of ecological studies of mammalia. Presents data collected over a period of years in Trans-Baikal region in studies to determine the positive as well as negative role of such carnivora.</p>
FDB	68T70	FDB
USSR/Medicine - Zoology Medicine - Invertebrates	Mar/Apr 1948	USSR/Medicine - Zoology Medicine - Environment
<p>"Book Reviews" 10 pp</p> <p>"Zool Zhur" Vol XXVII, No 2</p> <p>G. G. Abrikosov, Ya. A. Birshteyn, and F. A. Lavrekhin review "Large Practicum for Invertebrate Zoology," Part I, by A. V. Ivanov, G. K. Petrushevskiy, Yu. I. Polyanskiy, A. A. Strelkov, and A. S. Monchadskiy. Book contains 436 pages and was published in 1946. In spite of minor errors is valuable, and may be used for many years as a text as well as reference book for those interested in invertebrates. I. I. Puzanov reviews "Zoological Geography" by Professors N. A.</p>		<p>"The Perception of Special Features in the Formation and Development of Ichthyofauna in Water Reservoirs in Various Geographical Zones of the USSR," G. V. Nikol'skiy, Ichthyological Lab, Zool Inst, Moscow State U, 10 pp</p> <p>"Zool Zhur" Vol XXVII, No 2</p> <p>Explains formation of ichthyofauna in various watersheds, which are closely allied to definite geographical zones. Materials obtained during studies conducted from 1941 to 1945 at Ushinsk and Murgaba.</p>
FDB	68T72	FDB

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FDB Periodical Abstracts Scientific No 68

RESTRICTED

USSR/Medicine - Zoology (Contd)

Mar/Apr 1948

Bobrinskiy and L. A. Zenkevich, and Docent Ya. A. Birshteyn. Contains some 350 pages and was published in 1946. Book is valuable but narrow in scope, poorly organized, and is lacking in sufficient bibliographical notes and references.

FDB

68T72

USSR/Medicine - Chromosomes  
Medicine - Cells, Division

May 1948

"About the Development of the Trisomatic Cell," A. G. Araratyan, S. N. Movsesyan, Inst of Genetics of Plants, Acad Sci USSR, 2½ pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Description of trisomatic cell sheds light on its method of development. Experiments and studies started as early as 1946 to determine action of carbonic acid gas on mitosis and chromosomes. History of trisomatic cell. Submitted by Academician N. A. Maksimov 15 Mar 1948.

FDB

68T75

USSR/Medicine - Plants  
Medicine - Nutrition

May 1948

"The Nature of Nourishment to Plants at the Expense of Ions From Adsorbers," A. Peterburgskiy, Agrochem Testing Station imeni D. N. Pryanishnikova, Timiryazev Agr Acad, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Results of tests conducted to determine degree of nourishment furnished by basic cations and anions to plants, especially where such substances were introduced by adsorption. Submitted by Academician D. N. Pryanishnikov 5 Mar 1948.

FDB

68T77

USSR/Medicine - Albumin  
Medicine - Vertebrates

May 1948

"Extraction of Crystalline Albumin of a New Type (Procollagen) From Various Organs of Vertebrates," V. N. Orekhovich, A. A. Tustanovskiy, N. Ye. Plotnikova, Chem Lab of Albumins, Inst Biol and Med Chem, Acad Med Sci USSR, 2½ pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Previous article reported discovery of procollagen, isolation of crystalline procollagen from skin of various vertebrates, and gave a description of some of its properties. Reports results of studies to determine extent of distribution of procollagen in animals.

FDB

68T79

USSR/Medicine - Marine Organisms  
Medicine - Environment

Mar/Apr 1948

"Biological Structure of the Ocean," L. A. Zenkevich, Inst Oceanology, Acad Sci USSR, 12 pp

"Zool Zhur" Vol XXVII, No 2

Results of studies on horizontal and vertical distribution of organisms in sea used for determination of biological structure of oceans. Presents results of studies conducted on several seas over a period of years. Discusses distribution of sun's energy in water, and food cycle in oceans. Shows relationships and differences between ocean biology and geographical features.

FDB

68T74

USSR/Medicine - Flies  
Medicine - Life, Duration

May 1948

"Experimental Research on Intraspecific Struggles," V. Ye. Al'tshuler, B. A. Gertsberg, Saratov State U, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Materials obtained by one of authors in a previous work show a direct experimental indication of intraspecific struggles and permit clarification of some characteristic details which arise from it. Authors attempted to explain relation between increased life span of one line of flies to development of another line. Submitted by Academician I. I. Shmal'gauzen 20 Mar 1948.

FDB

68T76

USSR/Medicine - Sucrose  
Medicine - Carbohydrates, Metabolism

May 1948

"The Role of Sucrose in the Exchange of Plant Carbohydrates," B. A. Rubin, Ye. V. Artsikhovskaya, Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Previous observations showed that plant starch content is related to sucrose content. Describes experiments confirming that amount of sucrose utilized is dependent on amount of fixed fructose contained. Submitted by Academician A. N. Oparin 6 Mar 1948.

FDB

68T78

USSR/Medicine - Genetics  
Medicine - Chromosomes

May 1948

"A New Principle of the Action of Nonautonomous Genes," S. I. Alikhanyan, Inst Zool, Moscow State U imeni M. V. Lomonosov, 3 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

In spite of large amount of work done on so-called genetic products of "plus vermillion" and "plus cinnabar," very little is published regarding mechanisms of action of genes. Experiments to determine atomic action in genes and genes not possessing atomic action. Submitted by Academician I. I. Shmal'gauzen 6 Mar 1948.

FDB

68T80



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FDB Periodical Abstracts Scientific No 68

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USSR/Medicine - Albumin (Contd)

May 1948

especially extent to which substance is found in animal organs and tissues. Submitted by Academician Ya. O. Parnas 27 Feb 1948.

FDB

68T79

USSR/Medicine - Thyroid, Regeneration  
Medicine - Gonaids

May 1948

"The Relationship of the Active Beginnings of the Thyroid Glands and Gonad in the Morphogenic Process," A. A. Voytkovich, Kazakh Med Inst imeni V. M. Molotov, Alma-Ata, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Studies to discover basic factor that determines specific regeneration process in birds. Particular attention given to genetic determining properties of regeneration of tissues and hormones of thyroid gland. Submitted by Academician I. I. Shmal'gauzen 29 Mar 1948.

FDB

68T82

USSR/Medicine - Marine Organisms  
Medicine - Taxonomy

May 1948

"Craspedacusta Marginata (Modeer) Polyps in Tashkent," A. M. Zavadskiy, 3 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Subject polyp is only form of hydrozoa possessing metagenesis. Describes characteristics of rare polyps found by author in an aquarium in 1941. Gives state of polyps in aquarium and methods employed to study them. Submitted by Academician L. S. Berg 12 Mar 1948.

FDB

68T84

USSR/Medicine - Plants, Growth  
Medicine - Anthocyan

May 1948

"Anthocyan and Plant Development," Ye. Ya. Yermolayeva, O. A. Shcheglova, Bot Inst imeni V. L. Komarov, Acad Sci USSR, 2 1/2 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

In previous studies on photoperiodic action of plants author came across interesting phenomenon of absence of anthocyan in leaves when plants develop under conditions of a short day. This is especially true for that stage between vegetative phase and reproductive phase. Gives results of studies conducted to clarify this phenomenon. Submitted by Academician N. A. Maksimov 19 Mar 1948.

FDB

68T86

USSR/Medicine - Gonadotropins  
Medicine - Genitals

May 1948

"Effect of a Gonadotrophic Compound on the Genital System Passer Domesticus and Passer Montanus L. During the Winter Season," S. D. Yudinsev, Moscow State U imeni M. V. Lomonosov, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Presents material on stimulation of sexual system in fetus of above-mentioned sparrows by means of gonadotrophic preparations of blood serum. Submitted by Academician I. I. Shmal'gauzen 19 Mar 1948.

FDB

68T81

USSR/Medicine - Zoology  
Medicine - Fecundity

May 1948

"Fertility of Cyclops in Cultures of Various Densities," A. L. Zelikman, A. K. Gaynrikh, Inst Zool, Moscow State U imeni M. V. Lomonosov, 3 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Studies conducted to determine effect of numbers on quality of factors in process of evolution of a type. Devotes special attention to relation of fertility of cyclops to densities of their populations. Submitted by Academician I. I. Shmal'gauzen 15 Mar 1948.

FDB

68T83

USSR/Medicine - Wheat  
Medicine - Rye

May 1948

"Growth of the Embryo of Winter Rye on the Endosperm of Summer Wheat," F. L. Kalinin, Inst Plant Physiol imeni K. A. Timiryazev, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Based on assumption that plant organisms undergo a great change between young stage and developed stage author studied development of rye on foreign endosperm. Determined that development conditions resulted in great variations in growth and development of rye. Submitted by Academician N. A. Maksimov 15 Mar 1948.

FDB

68T85

USSR/Medicine - Fungi  
Medicine - Anthrax

May 1948

"Change in the Virulence of Gloeosporium Lagerarium (Pass.) Sacc. et Roum. in Relation to the Period of Growth and Number of Regraftings on Organic Substrata," M. N. Rodigin, Bashkir Agr Inst, 2 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Results of experiments conducted to determine relationship between virulence of anthrax fungus and length of its development and number of regraftings on organic substrata. Submitted by Academician N. A. Maksimov 15 Mar 1948.

FDB

68T87

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## FDB Periodical Abstracts Scientific No 68

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USSR/Medicine - Genetics  
 Medicine - Heredity, Mechanism  
 May 1948

"Genetic Differences of Animals With Identical Genealogy," Kh. F. Kushner, Kh. B. Al'perovich, Inst of Genetics, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Presents data collected during course of studies on determining a relationship between two parents and its offspring. Gives reasons for difference between full offspring and its half brother or half sister and results of further studies of genotypic differences. Submitted by Academician I. I. Shmal'gauzen 12 Mar 1948.

FDB 68T88  
 USSR/Metals May 1948  
 Metallurgy, Ferrous  
 Austenite

"Calculation of the Rate of Growth of Ferrite Grains During the Isothermic Breakdown of Austenite," B. Ya. Lyubov, Sec of Theoretical Phys, Inst of the Phys of Metals, TsNIIChM, 2 1/2 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Submits method which can be utilized for calculating speed of development of grains of new phase and in other metallic systems. Method developed after studies on slowly cooling austenite, especially at temperatures around 723° C, at which point austenite enters new phase known as ferrite. Submitted by Academician I. P. Bardin 17 Mar 1948. FDB 68T90

USSR/Metals May 1948  
 Metallurgy  
 Slags

"Mervinite and 2CaO·SiO<sub>2</sub>; Their Paragenesis in One of the Slags of Ferrovanadium Production," Academician D. S. Belyankin, V. V. Lapin, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Results of microscopic studies of various samples. It was determined that two samples studied contained same quantity of minerals but quality varied. Results obtained in studies can be adopted for use in constructing diagrams for CaO-MgO-SiO<sub>2</sub> in connection with problem of utilizing metallurgical slag as technological bonding agents. Submitted 17 Mar 1948.

FDB 68T92  
 USSR/Metals May 1948  
 Aluminum Alloys  
 Corrosion

"Intercrystalline Corrosion of Aluminum Alloys," A. I. Golubev, All-Union Inst Avn Materials, Moscow, 11 pp

"Zhur Fiz Khim" Vol XXII, No 5

Corrosion resistance of compound CuAl<sub>2</sub>, produced during the aging of aluminum, was investigated and shown to be considerably lower than that of pure aluminum. Results obtained enable mechanism of intercrystalline corrosion of duralumin to be looked on as dissolving of aluminum from intermetallic compound; copper remains and acts as an anode. Article is illustrated with microphotographs and thermal equilibrium diagrams. Submitted 14 Aug 1947. FDB 68T94

USSR/Medicine - Morphology  
 Medicine - Heredity, Mechanism  
 May 1948

"Selection in the Heterospermic Line," M. M. Kamshilov, Inst Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Results of selection from some 25 generations of three heterospermic and of control lines of eyeless *Drosophila melanogaster*. Describes material used in studies, and methods employed in selection. Submitted by Academician I. I. Shmal'gauzen 12 Mar 1948.

FDB 68T89  
 USSR/Minerals May 1948  
 Clays  
 Refractory Materials

"The Mineralogy of Refractory Clays of Shisskiy Deposits in the North Caucasus," P. S. Samodurov, I. D. Sedletskiy, 2 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Describes location and characteristics of deposits. Experiments conducted on white and on pink clays. Obtained curves for heating. Studies of chemical components of clays. Submitted by Academician D. S. Belyankin 17 Mar 1948.

FDB 68T91  
 USSR/Minerals - Dehydration May 1948  
 Minerals, Synthetic

"Tensimetry of Synthetic Hydrargillite," I. V. Borisevich, Inst Geol Sci, Acad Sci USSR, 2 1/2 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

In 1947 F. V. Syromyatnikov discovered an apparatus for dehydrating minerals in a vacuum. Synthetic hydrargillite used to determine constants of this equipment. At the same time it was possible to study endothermic effect on hydrargillite. Describes tensimetric method for studying small amounts of hydrates, particularly synthetic hydrargillite. Submitted by Academician D. S. Belyankin 17 Mar 1948.

FDB 68T93  
 USSR/Physics May 1948  
 Wave Propagation  
 Mechanics

"Expansion of Elastic-Viscous-Pliable Waves in Cores," V. V. Sokolovskiy, Corr Mem, Acad Sci, Mechanics Inst, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Short account of results obtained during studies conducted on propagation of waves in beams composed of material which had elastic as well as viscopliable qualities. Submitted 20 Mar 1948.

FDB 68T95

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## FDB Periodical Abstracts Scientific No 68

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USSR/Physics

Phosphorescent Materials  
Dyes

May 1948

"Extinguishing Phosphorescence of Dye Solutions With Foreign Matter," B. Ya. Sveshnikov, State Optical Inst, 3 1/2 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Presents various results obtained during course of studies conducted on extinguishing of phosphorescence. Results obtained agree with theory of damping, suggested by S. I. Vavilov, and A. N. Terenin's hypothesis. Submitted by Academician S. I. Vavilov 9 Mar 1948.

FDB

68T96

USSR/Physics

Ferromagnetics  
Magnetism

May 1948

"Relation of the Hall Effect of Ferromagnetic Metals to Spontaneous Magnetization," A. Komar, N. Volkenshteyn, Ural Affiliate, Acad Sci USSR, 2 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Mathematical discussion showing relationship of subject dependence. Authors note that results obtained by them agreed with those obtained by N. S. Akulov. Submitted by Academician S. I. Vavilov 28 Feb 1948.

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68T98

List of Abbreviations  
used in FDB Periodical Abstracts

ID	Intelligence Division Library
AMC	Air Documents Division, Air Materiel Command
ST	Reference Division, State Department
BM	Bureau of Mines, Department of Interior
BS	National Bureau of Standards
SI	Smithsonian Institution
LC	Library of Congress
FDB	Foreign Documents Branch, CIA
COM	Department of Commerce
AF	A-2 Library, USAF

USSR/Physics

Wave Guides  
Antenna

May 1948

"Relationship Between Energy Coefficients Which Characterize Antenna Arrangements on Wave Guides," M. L. Levin, Phys Tech Inst, Gor'kiy State U, 3 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Discusses a semi-infinite cylindrical wave guide of arbitrary lateral cross-section having type of antenna arrangement at one end. Walls of wave guide and metallic part of antenna are considered ideal conductors. Mathematical formulas showing subject relationship. Submitted by Academician M. A. Leontovich 17 Mar 1948.

FDB

68T97

USSR/Physics

Phosphorous Compounds  
Luminescence

May 1948

"Duration of the Initial Process of Luminescence of Phosphorous Compounds," M. D. Galanin, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 2 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Results of phosphorescopic and oscillographic studies on luminescent qualities of phosphorous compounds. Particular attention directed to short term luminescence. Studied with aid of fluoroscope. Submitted by Academician S. I. Vavilov 14 Feb 1948.

FDB

68T99

List of Abbreviations  
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SI	Smithsonian Institution
LC	Library of Congress
FDB	Foreign Documents Branch, CIA
COM	Department of Commerce
AF	A-2 Library, USAF